

## REPORT

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1. Location: This factory is about three kilometers west of the Volga, eight kilometers northwest of the Volga railroad bridge, and opposite the Saratov military airfield. The plant is the third largest in Saratov; the airplane factory and oil refinery exceed it in size. The compound is approximately 600 x 700 meters, but the northwest half is undeveloped. However, it is reported that new construction in this area is planned.
2. Installations (See Attachments I and II for detailed description and map of the installations): The ball bearing plant is new, was built between the two World Wars, probably not before 1930. War damage was slight with only the southeast corner of Block W bombed.
3. The technical equipment of the factory is modern and efficient. At the end of 1946 many German machines were received, and in 1949 American equipment arrived. Electric current is supplied by Saratov-Tets and Saratov-Gres power plants. Saratov industries rely on electricity, natural gas, and oil for power. A railroad spur connects with the main railroad, and each section has approach tracks. Since the plant has no locomotives, shunting service is done by engines of the Russian state-owned railroad.
4. As is the rule in new Russian industrial installations, administration offices are housed in each section, usually on the second floor.
5. Production: Ball bearings, varying in diameter from a few millimeters to 20 centimeters, are produced at the rate of 200,000 in three shifts. In the same period about 20,000 to 22,000 rings are also finished. Waste is 2 to 5%. (1)

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Finished ball bearings are wrapped in oil paper and boxed for shipment to Moscow or the Urals. Usually shipment is by rail and only occasionally by truck.

6. Some colored castings are produced. These ring-like forms, eight centimeters high and eight centimeters in diameter, have square teeth half way around like a crown.
7. Production is 115 to 150% above production plans.
8. Management: The main director was (fnu) Orlov, who occupies a luxurious office in the factory. Although he seldom made an appearance, it is reported that he is quiet, well-educated, but conceited. His position was apparently well-established, since production has been more than expected. Commissions, including high ranking Soviet Army officers, visited about once a month.
9. Personnel: It is estimated that approximately 10,000 workers for three shifts are employed by the plant. At times 900 PW's were also engaged in production. Numerous Stakhanov workers, who produce up to 500% above quotas and set the pace for the high production rate, are employed.
10. Security measures: Surrounded by wall and barbed wire, the plant is protected by factory guards with dogs. Watchtowers are placed at intervals along the enclosure.

Encl: 1 key to sketch map of Saratov ball bearing factory  
(2 pages)  
1 sketch map of Saratov ball bearing factory

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(1) Comment: the percentage of defective products at the Saratov Bearing Factory was high, possibly 45 percent of the total production.

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## ATTACHMENT I

## KEY TO SKETCH MAP OF SAKATOV BALL BEARING FACTORY

1. Block A. Size is about 30 x 150 meters. This is a workshop for making small iron construction pieces needed for buildings under construction. These small pieces are mounted on larger sections. The shop is not completely finished and equipped.
2. Block B. This large factory building, 30 x 150 meters, was built after 1945. It is divided into three sections as follows:
  - a. Garage with space for 40 trucks and a repair shop.
  - b. Welding shop. Part assembly is done here.
  - c. Lathe, milling, drilling, and grinding shop. The machinery is for the most part American, including combination machines the size of a small house which lathe, mill, grind, and drill simultaneously. There are about 40 standard and ten to twelve extra large combination workbenches. Small machine parts for the factory's use are made here.
3. Checking points.
4. Offices and workshops. 40 x 200 meters.
5. Large building under construction. When this building, which has been under construction for a long time, is finished, it should be about the size of Block W and similarly equipped. Production should increase 50 to 100%. Large quantities of the newest type machine tools to equip this section have arrived and are stored on both sides of the railroad spur leading into the compound. The section now finished (4) will form the east side of the new building and house offices on the second floor.
6. Block W. This building is 200 x 230 meters and houses 30 sections. Here ball bearings of all sizes are produced, finished, assembled, stored, and finally shipped via the railroad spur extending along the south side of the building. The east side of the building has two stories with offices occurring on the second floor.
  - a. Tempering shop.
  - b. Foundry. Factory tools when in demand are cast here.
  - c. Press shop.
  - d. Ball bearing production. Automatic machines are arranged in rows for mass production.
  - e. Tempering shop.
  - f. Production section.
  - g. Welding shop.
  - h. Assembly section.
  - i. Offices.
7. Storage for chemicals.
8. Transformer installation.
9. Boiler house. For heating purposes only.
10. Assembly. A large building on the site of an old installation.
11. Forge. This building was built after 1945 and is 50 x 100 meters and 14 meters high. In the northern half of the building ten or twelve automatic presses stamp out ball bearing rings. These presses are about five meters long and four meters high, one and a half of which are buried in the ground.

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ATTACHMENT I

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To the rear of the automatic presses is a wheel, two and one half meters in diameter. In front of the presses is the automatic device for feeding steel bars (eight to ten centimeters in diameter) into the machines. These machines, operating on compressed air, are controlled by foot pedals. By stepping on the pedal twice the two impressions necessary to produce a finished ring are accomplished. In the southern half of the building are four or five large presses on which larger pieces are forwarded by an electric crane having a five-ton capacity.

12. Unused area for future expansion.

13. Storage depot.

14. Carpenter shop.

----- Dump car tracks, hand operated.

-----X-----X-----X----- Wall or barbed wire fence.

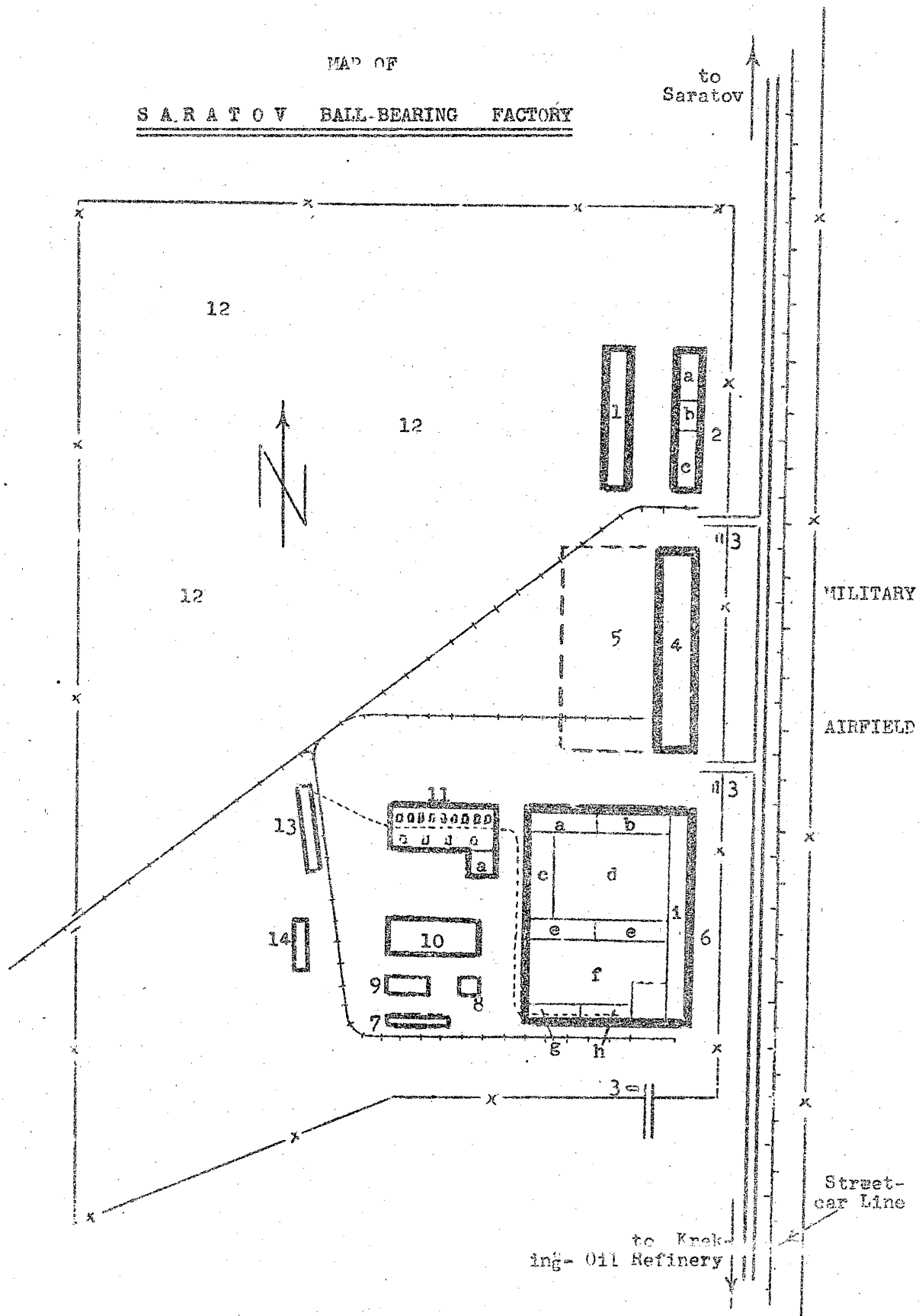
----- Street car line.

----- Railroad spur

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ATTACHMENT IIMAP OF  
SARATOV BALL-BEARING FACTORY

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